

REMARKS

Prior to entering the U.S. national phase, Claims 1-152 were pending in International Patent Application No. PCT/AU99/00909. Claims 2, 4, 6-9, 13-24, 27-40, 42, 43, 46-48, 50-61, 63-81, 83-116, 118, 119, 121, 126-128, 130, 131, 133-142, 144, 145 and 149-152 are being cancelled herewith; and Claims 10-12, 44, 45, 120, 132, 143 and 146 are being amended herewith. The original numbering of claims in the International Application has been retained, so that Claims 1, 3, 5, 10-12, 25, 26, 41, 44, 45, 49, 62, 82, 117, 120, 122-125, 129, 132, 143 and 146-148 constitute all claims pending in the application after entry of the claim amendments presented herewith.

All of the amendments to the claims presented herewith are being made solely for the purpose of reducing the number of claims pending in the application to reduce additional claim fees under 37 C.F.R. §1.492 that are due upon entry of this International Application into the U.S. national phase. No claim amendments are being made for any reason related to patentability.

Respectfully submitted,

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VERSION OF REPLACEMENT PARAGRAPH WITH MARKINGS
TO SHOW CHANGES MADE

The present invention provides in another separate embodiment a method for adjusting the atmosphere within a chamber containing respiring produce, the method comprising:

- (a) flushing the chamber with a purging gas containing little or no oxygen;
- (b) substantially sealing the chamber either before or after step (a);
- ~~(b)~~ (c) adjusting the oxygen level in the chamber to a level above a desired oxygen setpoint;
- ~~(c)~~ (d) permitting the oxygen level in the chamber to degrade to about the oxygen setpoint as a consequence of oxygen consumed by the produce being converted to carbon dioxide;
- ~~(d)~~ (e) removing chamber atmosphere from the chamber; and
- ~~(e)~~ (f) repeating steps ~~(b), (c) and (d)~~ (c), (d) and (e) as required if the oxygen level falls below the oxygen setpoint, to maintain the oxygen level in the region of the oxygen setpoint.

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VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

10. (Amended) A method according to claim 71 wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container is being selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

11. (Amended) A method according to claim 83 wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container is selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

12. (Amended) A method according to claim 95 wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container is selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

44. (Amended) A method according to claim 4341 wherein said carbon dioxide removal means is a quantity of carbon dioxide absorbing material placed in contact with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container is selected so that the rate of carbon dioxide transmission into said

at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

45. (Amended) A method according to claim 4144 wherein said controller is adapted to cause the inlet means to remain open for a time that is approximately proportional to the difference between the detected oxygen concentration and an oxygen setpoint.

120. (Amended) Apparatus according to claim 119117 wherein said carbon dioxide reduction means is a carbon dioxide absorbing material contained in at least one carbon dioxide transmissible container is selected so that container, the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is being substantially equal to said predetermined carbon dioxide removal rate.

132. Apparatus for adjusting the atmosphere within a chamber comprising:
(a) sealing means for substantially sealing the chamber;
(b) inlet means to permit ambient atmosphere to enter the chamber;
(c) outlet means to permit chamber atmosphere to exit the chamber; and
(d) a controller having an oxygen concentration sensor and control means responsive to the oxygen concentration sensor, the control means being adapted to cause the inlet means to open to admit ambient atmosphere into the chamber following the oxygen concentration sensor detecting that the oxygen concentration in the chamber has fallen below a predetermined amount;

132. (Amended) Apparatus according to Claim 117 wherein said inlet means and/or outlet means comprise one or more electromagnetically actuatable valves having a solenoid so that said one or more valves may be opened from a closed position and closed from an open position by applying direct electric current to the solenoid, said one or more valves being held in either the open position or the closed position in the absence of the application of said direct electric current.

143. (Amended) A method for adjusting the atmosphere within a chamber containing

respiring produce, the method comprising:

- (a) flushing the chamber with a purging gas having a low oxygen concentration or no oxygen;
- (b) placing a carbon dioxide absorbing material in the chamber so as to absorb the difference between a predicted level of carbon dioxide in the chamber based on the rate of consumption of oxygen by the produce and a desired carbon dioxide level so that the carbon dioxide concentration in the chamber does not substantially exceed said desired level;
- (c) substantially sealing the chamber either before or after step (a);
- (b)(d) adjusting the oxygen level in the chamber to a level above a desired oxygen setpoint;
- (e)(e) permitting the oxygen level in the chamber to degrade to about the oxygen setpoint as a consequence of oxygen consumed by the produce being converted to carbon dioxide;
- (d)(f) removing chamber atmosphere from the chamber; and
- (e) ~~repeating steps (b), (e) and (d)(g)~~ repeating steps (d), (e) and (f) as required if the oxygen level falls below the oxygen setpoint, to maintain the oxygen level in the region of the oxygen setpoint.

146. (Amended) A method according to claim 145143 wherein the rate of removal of carbon dioxide from the chamber is calculated from a formula that produces a result substantially equal to the result produced by a calculation in accordance with the following formula:

$$a_{CO_2} = r_{CO_2} - \frac{0.79 p_{CO_2} r_{O_2}}{(0.21 - p_{O_2}) - 0.21 p_{CO_2}}$$

where a_{O_2} is the carbon dioxide removal rate; p_{O_2} is the oxygen setpoint, expressed as a proportion; p_{CO_2} is the desired carbon dioxide concentration within the chamber, expressed as a proportion; r_{O_2} is the respiration rate; and r_{CO_2} is the rate of production of carbon dioxide through respiration.